



**MONTGOMERY WATSON  
CONSTRUCTORS, INC.**

October 4, 2000



Mr. Kevin Adler  
Remedial Project Manager  
U.S. Environmental Protection Agency  
Region V, SR-6J  
77 West Jackson Boulevard  
Chicago, IL 60604-3590

Re: Groundwater Treatment System  
Quarterly Monitoring Report – Second Quarter 2000  
ACS NPL Site

Dear Mr. Adler:

Please find enclosed two copies of the Groundwater Treatment System, Quarterly Monitoring Report, Second Quarter 2000 for the American Chemical Service NPL Site in Griffith, Indiana. This report is submitted in accordance with the PGCS Performance Standard Verification Plan, April 1997.

We are also sending three copies of this report to IDEM and one copy of this report to Black & Veatch Waste Systems. If you need additional copies of this report please let me know and we can forward them to you, or whomever you specify.

Sincerely,

MONTGOMERY WATSON

Peter J. Vagt, Ph.D., CPG  
Project Manager

cc: S. Grady (3 copies)  
S. Mrkvicka, B&V (2 copy)  
ACS Technical Committee (1 copy to each member)

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1252042.251801

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**GROUNDWATER TREATMENT SYSTEM  
QUARTERLY MONITORING REPORT  
SECOND QUARTER 2000**

**AMERICAN CHEMICAL SERVICE NPL SITE  
GRIFFITH, INDIANA**

**Montgomery Watson File No. 1252057**

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**Prepared For:**

**American Chemical Service NPL Site RD/RA Executive Committee  
Griffith, Indiana**

**Prepared By:**

**Montgomery Watson  
27755 Diehl Road, Suite 300  
Warrenville, Illinois 60555**

**October 2000**



**MONTGOMERY WATSON**

**GROUNDWATER TREATMENT SYSTEM  
QUARTERLY MONITORING REPORT  
SECOND QUARTER 2000**

**AMERICAN CHEMICAL SERVICE NPL SITE  
GRIFFITH, INDIANA**

**Prepared For:**

**American Chemical Service NPL Site RD/RA Executive Committee  
Griffith, Indiana**

Prepared by:

\_\_\_\_\_  
Robert A. Adams, P.E.  
Project Engineer

\_\_\_\_\_  
Date

Approved by:

\_\_\_\_\_  
Peter Vagt, Ph.D., CPG  
Project Manager

\_\_\_\_\_  
Date

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## 1.0 INTRODUCTION

Montgomery Watson, on behalf of the ACS RD/RA Executive Committee, started up the on-site groundwater treatment system at the American Chemical Service NPL Site (ACS Site) in Griffith, Indiana on March 13, 1997. The groundwater treatment plant (GWTP) system was designed to treat groundwater from the Perimeter Groundwater Containment System (PGCS) and certain volumes of water from the Barrier Wall Extraction System (BWES). The treatment consists of a phase-separator for oil and free product removal, equalization tanks, a UV-oxidation unit for destruction of organic constituents, and an air stripper to remove methylene chloride and other organics. The treatment also includes a chemical precipitation and clarification unit to remove metals, a sand filter to remove suspended solids, and activated carbon vessels for final polishing of the treated groundwater.

Currently, an activated sludge treatment process is being added to the process to reduce the volatile and semivolatile organic compounds (VOCs and SVOCs) in the collected groundwater. The activated sludge treatment process also reduces the amount the activated carbon required in the treatment process. The activated sludge system is being phased in and is scheduled to be fully integrated by the end of 2000.

The treated effluent from the treatment system is discharged to the nearby wetlands, west of the treatment system, in accordance with Agency approvals. This Groundwater Treatment System report summarizes effluent analytical data and water level gauging data collected from April 2000 through June 2000.

## 2.0 COMPLIANCE MONITORING

### 2.1 INTRODUCTION

Effluent samples were periodically collected from the treatment system to demonstrate compliance with the discharge limits (Table 2.1) established by Indiana Department of Environmental Management (IDEM) and United States Environmental Protection Agency (U.S. EPA). The Performance Standard Verification Plan (PSVP) requires quarterly effluent sampling for the system (Table 2.2). To be conservative, the effluent sampling is being conducted on a monthly basis. The samples will continue to be collected on a monthly basis until the treatment system is operating in a relatively steady state after completion and startup of the groundwater treatment plant upgrades.

Sampling and analyses were performed in accordance with the Agency-approved PSVP Quality Assurance Project Plan (QAPP) prepared by Montgomery Watson for the ACS RD/RA Executive Committee in April 1997. Quality control measures were also instituted in accordance with the PSVP QAPP. The following paragraphs present details on sampling and analyses, and also summarize the analytical data for the treatment system effluent.

### 2.2 SAMPLING AND ANALYSES

Effluent samples were collected each month during the second quarter. For this reporting period, the samples were collected on the following days:

- April 5, 2000
- May 16, 2000
- June 1, 2000

Effluent samples were collected directly from a sample tap on the effluent line of the treatment system. All samples were placed in contaminant-free containers, as specified in the U.S. EPA Specifications and Guidance for Obtaining Contaminant-Free Sample Containers (U.S. EPA, 1992). Appropriate sample containers and preservatives, as specified in the QAPP, were used to collect and preserve the samples. Following sample collection, the sample containers were refrigerated at or below 4° C in coolers. Chain-of-Custody forms were prepared to track the transfer of samples from the treatment system to the laboratories. In accordance with the approved QAPP, the effluent water samples were analyzed by the following analytical methods:

<u>Parameter</u>	<u>Analytical Method</u>
VOCs	SW-846 8260B
SVOCs	SW-846 8270C
Pentachlorophenol	SW-846 8270C and SIM
Pesticides/PCBs	EPA 608
Metals (Excluding Mercury)	SW-846 6010
General Water Quality Parameters (TSS and BOD-5)	EPA 160.2 and 405.1
Mercury	SW-846 7470
pH	EPA 150.1

### 2.3 ANALYTICAL RESULTS

No exceedences were reported during this period of operation. The effluent monitoring data, summarized in Table 2.3, verifies that the system effluent was consistently compliant with the discharge limits presented in Table 2.1. The analytical data sheets are provided in Appendix A.

Third party data validation was performed in accordance with U.S. EPA National Functional Guidelines for Organic Data Review. The results for PCBs from April 5, 2000, and 4-methylphenol from May 16, 2000 and June 1, 2000, which all were determined to be "non detects" by the testing laboratory, have been qualified "R" by the validator. This suggests that the data might be rejected, based on surrogate spike recovery deficiencies. However, it is likely that these "non detect" results do indeed accurately characterize that effluent because there have not been any PCB or 4-methylphenol detections in previous, non-qualified, samples.

### 3.0 TREATMENT SYSTEM PROCESS MODIFICATIONS

During the second quarter of 2000, the GWTP continued to treat groundwater collected by the BWES and PGCS. Construction of the GWTP upgrades began in August 1999 and continued through the second quarter of 2000. The major component of the upgrade, the activated sludge plant, was completed in May 2000. On May 4, a final construction completion inspection was conducted by Montgomery Watson and Smith & Loveless, the activated sludge plant vendor, to identify remaining construction requirements and obtain vendor approval for operation. The remaining construction requirements were completed and the activated sludge plant was approved for operation. This activated sludge plant is now being phased into the treatment sequence.

The following summarizes the other work performed during this monitoring period:

- The gravity phase separator tank (T-101) was hydrostatically tested.
- The catalytic oxidizer/scrubber (ME-106) was delivered to the site and an inspection of the unit was conducted to ensure that the system was delivered as specified. No deficiencies or inconsistencies were observed.
- The existing GWTP Operation and Maintenance Manual continued to be revised to incorporate the upgrades.
- Groundwater collected by the BWES began to be treated in the new activated sludge plant in May 2000.
- The activated sludge plant was regularly monitored in order to maximize the treatment capabilities and optimize operation of the mechanical components of the plant.
- The 20,000 gallon fract tank used for aeration of the BWES influent since the pilot study in November 1998 was removed from operation when the activated sludge plant was brought on line.
- GWTP compliance sampling and analysis continued to be conducted monthly.



Additional GWTP upgrade work to be continued or completed during future monitoring periods includes:

- The procurement of remaining process equipment needed to complete the upgrades
- Placement of the equalization/aeration tank (T-102)
- Installation of the catalytic oxidizer-scrubber unit (ME-106)
- Installation of the process pumps and piping needed for completion of the upgrades
- Installation of the electrical and control lines and associated upgrades
- Upgrading the programmable logic control center
- Continued monitoring and optimization of the activated sludge plant
- Start-up of the remaining components of the upgrades

This upgrade work is expected to be completed in late October 2000. Full scale implementation, trouble shooting, and fine tuning will be conducted during November. Full integration is scheduled for December 2000.

#### 4.0 PGCS AND BWES GAUGING ACTIVITIES

The PGCS trench groundwater extraction wells were operated in "auto" mode continuously throughout the months of April, May, and June 2000. In "auto" mode, each of the PGCS extraction wells are set to turn on or off automatically based on water levels within tank T-2. This mode is used to control the flowrate through the treatment system.

In accordance with the PSVP for the Site, a discussion on the effect of the PGCS and BWES on the water table near the Site is presented in each quarterly monitoring report. This section presents a discussion on the groundwater elevation findings during the months of April through June 2000. Groundwater elevation measurements were collected throughout the Site on June 26, 2000. However, to keep track of the groundwater table inside the barrier wall, levels were collected from the BWES piezometers (P-3, P-32, P-49 and P-96) on a regular basis. The levels from these four piezometers are shown in the table below.

	Water Table Elevation			
Date	P-3	P-32	P-49	P-96
April 12, 2000	635.27	635.62	635.28	634.49
April 28, 2000	635.47	635.82	635.18	634.19
May 12, 2000	635.87	636.12	635.88	633.29
May 25, 2000	635.17	635.22	634.98	631.89
June 30, 2000	635.97	635.62	635.28	632.69

These levels indicate that during the reporting period, the water table inside the barrier wall has been maintained at a fairly constant level (approximately 632 to 636) by continued operation of the BWES. These levels have been maintained at a constant level to minimize the amount of BWES groundwater that needs to be treated and to maintain the water table at a low enough level to prevent overtopping of the barrier wall. The water elevations inside the barrier wall are depicted graphically on Figure 4.1.

The PGCS trench had a very minor influence on groundwater flow patterns observed during the June 2000 groundwater monitoring event because the PGCS was not extracting any water when the June 2000 water levels were taken (see Figure 4.2). The direction of groundwater flow was from east to west during the second quarter of 2000.

The barrier wall was constructed to isolate a contaminated zone under the site, and the BWES was installed to collect the impacted water within the barrier wall. A series of 16 piezometers were installed in eight pairs, one piezometer of each pair on either side of the barrier wall at each of the BWES trench locations. This allows measurement and tracking of water levels in order to ensure that the barrier wall is serving its designed function.

Groundwater elevations inside and outside the barrier wall were monitored on June 26, 2000. Figure 4.3 illustrates these groundwater elevations. Fluctuations in the gradient across the barrier wall occur due to seasonal groundwater conditions, pumping rates from

the BWES, and infiltration through the Site. However, the groundwater elevations measured in the piezometers indicated that the elevations inside the barrier wall were all 0.32 feet to 3.01 feet higher than the elevations outside the barrier wall. This data demonstrates that the barrier wall is successfully performing the intended function of isolating and containing the groundwater from the known source areas of the Site inside the barrier wall. Water levels from the piezometers on June 26, 2000 are presented below:

Piezometer	Location <sup>(1)</sup>	Water Level	Difference <sup>(2)</sup>
P-93	Outside	633.07	2.01
P-49 <sup>3</sup>	Inside	635.08	
P-95 <sup>4</sup>	Outside	NM	NA
P-96	Inside	633.76	
P-97	Outside	632.75	0.32
P-98	Inside	633.07	
P-99	Outside	632.53	3.01
P-100	Inside	635.54	
P-101	Outside	633.44	NA
P-102 <sup>5</sup>	Inside	NM	
P-103	Outside	633.86	2.64
P-104	Inside	636.50	
P-105	Outside	635.26	0.64
P-106	Inside	635.90	
P-107	Outside	634.66	1.36
P-108	Inside	636.02	

Notes:

1. Location indicates inside or outside the barrier wall.
  2. A positive value indicates that the water level is higher within the barrier wall. A negative value would indicate that the water level is lower within the barrier wall.
  3. Piezometer P-94 was damaged and could not be measured this monitoring period. Therefore the groundwater level from piezometer P-49 was used to calculate the hydraulic gradient. Piezometer P-94 will be repaired.
  4. Piezometer P-95 could not be measured this monitoring period due to a stuck well cap, which has since been rectified.
  5. Piezometer P-102 could not be measured this monitoring period because the well cap was under water.
- NA Value could not be calculated from single measurement.  
 NM Well not measured.

In general, water levels inside the barrier wall are currently several feet higher than the water levels outside the barrier wall. It is not the intent to continuously operate with the higher groundwater levels inside the barrier wall. The groundwater levels within the barrier wall during this monitoring period were balanced to maintain a safe level that would not overflow the barrier wall while minimizing the amount of groundwater within the barrier wall that requires collection and treatment resulting in excessive granular activated

carbon (GAC) usage. Upon completion of the groundwater treatment plant upgrades, the groundwater pumping rate of the BWES will be increased to lower the water table for operation of the in-situ soil vapor extraction systems to be installed in accordance with the Final Remedy.

Beside the eight pairs of piezometers installed specifically to monitor water level differences across the barrier wall, there are several other previously existing monitoring well and piezometers in the vicinity of the barrier wall. These are included on maps of the Site. One piezometer, P-40, is located along the north barrier wall alignment. Maps have shown it to be located inside the barrier wall. However, it has been noted that the water level in P-40 is often several feet lower than the expected water level inside the barrier wall. Since water levels are usually higher inside the wall (in the present interim operation mode) than water levels outside the wall, this observation raised the concern that the barrier wall might be leaking at this location.

Two steps were taken. First, the construction history and as-built drawings were evaluated and, second, a physical inspection was conducted of piezometer P-40. P-40 is located near a seam in the barrier wall, but all portions of the wall near P-40 passed the permeability tests conducted upon completion of the construction. As-built drawings indicate that the wall was extended 1.5 to 2.6 feet into the underlying confining clay layer. No deficiencies were noted in the daily construction logs for the timeframe that the work was being conducted in this area. A site visit provided resolution to the anomaly. It was found that the piezometer P-40 is located physically outside the barrier wall. Therefore, it is appropriate that the water levels measured in it are consistent with the water levels outside the barrier wall, rather than those inside the barrier wall. The P-40 symbol location has been corrected on maps of the site.

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**Table 2.1**  
**Groundwater Treatment System Effluent Discharge Limits**  
**American Chemical Service NPL Site**  
**Griffith, Indiana**

Groundwater Quality Parameter	Effluent Standard (Limit)
<b><i>General Water Quality Parameters</i></b>	
PH	6 - 9 S.U.
BOD-5	30 mg/L
TSS	30 mg/L
<b><i>Inorganics</i></b>	
Arsenic	50 µg/L
Beryllium	NE
Cadmium	4.1 µg/L
Manganese	NE
Mercury	0.02 µg/L (w/DL = 0.64)
Selenium	8.2 µg/L
Thallium	NE
Zinc	411 µg/L
<b><i>Volatile Organics</i></b>	
Acetone	6,800 µg/L
Benzene	5 µg/L
2-Butanone	210 µg/L
Chloromethane	NE
1,4 – Dichlorobenzene	NE
1,1 – Dichloroethane	NE
1,2 – Dichloroethene – cis	70 µg/L
Ethylbenzene	34 µg/L
Methylene chloride	5 µg/L
Tetrachloroethene	5 µg/L
Trichloroethene	5 µg/L
Vinyl chloride	2 µg/L
4 – Methyl - 2 – pentanone	15 µg/L
<b><i>Semi-Volatile Organics</i></b>	
bis(2 – Chloroethyl) ether	9.6 µg/L
bis(2 – Ethylhexyl) phthalate	6 µg/L
Isophorone	50 µg/L
4 – Methylphenol	34 µg/L
Pentachlorophenol	1 µg/L
<b><i>PCBs</i></b>	
PCBs	0.00056 µg/L (w/DL = 0.1 to 0.9)

Notes:

NE = No effluent limit established.

DL = Detection limit

**Table 2.2**  
**Sampling Frequency Schedule**  
**Groundwater Treatment System**  
**American Chemical Service NPL Site**  
**Griffith, Indiana**

<b>Analytes</b>	<b>Cumulative Time From Startup<sup>1</sup></b>	<b>Frequency<sup>3</sup></b>
Flowrate and pH	–	Continuous
BOD, TSS, SVOCs and Metals	0 to 7 days	Once per day
	8 to 30 days	Once per week
	31 to 180 days	Once per month
	181 days onward <sup>2</sup>	Once per quarter
VOCs	0 to 7 days	Once per day
	8 to 30 days	Once per week
	31 days onward <sup>2</sup>	Once per month
PCBs	0 to 7 days	Once
	8 to 30 days	Once
	31 to 180 days	Twice
	181 days onward <sup>2</sup>	Once per quarter
PCBs in Sediment (one location)	–	Once per year

Notes

1. Cumulative time from startup of the groundwater treatment system. Startup refers to the point at which contaminated groundwater from the extraction trench was being introduced into the treatment system. Startup occurred once the initial equipment/system testing with clean water was completed (March 13, 1997).
2. The monitoring period covered in this report is within this cumulative time division.
3. Due to the exceedences observed in the previous reporting periods, compliance samples are currently being collected on a monthly basis.

**Table 2.3**  
**Summary of Effluent Analytical Results - Second Quarter 2000**  
**Groundwater Treatment System**  
**American Chemical Service NPL Site**  
**Griffith, Indiana**

Event	Month 35	Month 36	Month 37	
Date	4/5/00	5/16/00	6/1/00	Effluent Limits
pH	7.5	7.5	6.9	6-9
TSS	ND	ND	20	30
BOD	20	2	9.6	30
Arsenic	ND	10.1	30.2	50
Beryllium	ND	0.22 B/	ND	NE
Cadmium	ND	ND	ND	4.1
Manganese	1050	986	3900	NE
Mercury	ND	ND	ND	0.02 (w/DL = 0.64)
Selenium	3.8 B/	ND	ND	8.2
Thallium	ND	8.0 B/	5.3 B/	NE
Zinc	2.1 B/	6.4 B/	17.0 B/	411
Benzene	ND	ND	ND	5
Acetone	270 EB/J	180 EB/	63 /J	6,800
2-Butanone	2 J/J	ND	5 /J	210
Chloromethane	ND /UJ	ND	ND /UJ	NE
1,4-Dichlorobenzene	ND	ND	ND	NE
1,1-Dichloroethane	ND	ND	ND	NE
cis-1,2-Dichloroethene	ND	ND	ND /UJ	70
Ethylbenzene	ND	ND	ND	34
Methylene chloride	2	2 B	2	5
Tetrachloroethene	ND	ND	ND	5
Trichloroethene	ND	ND	ND	5
Vinyl chloride	ND	ND	ND	2
4-Methyl-2-pentanone	2	2	2 /UJ	15
bis (2-Chloroethyl) ether	ND	ND	ND	9.6
bis(2-Ethylhexyl) - phthalate	ND	ND	ND	6
4 - Methylphenol	ND	ND /R	ND /R	34
Isophorone	ND	ND	ND	50
Pentachlorophenol	ND /J	ND /J	0.1	1
PCB/Aroclor-1016	ND /R	ND	ND	0.00056 (w/DL = 0.1 to 0.9)
PCB/Aroclor-1221	ND /R	ND	ND	0.00056 (w/DL = 0.1 to 0.9)
PCB/Aroclor-1232	ND /R	ND	ND	0.00056 (w/DL = 0.1 to 0.9)
PCB/Aroclor-1242	ND /R	ND	ND	0.00056 (w/DL = 0.1 to 0.9)
PCB/Aroclor-1248	ND /R	ND	ND	0.00056 (w/DL = 0.1 to 0.9)
PCB/Aroclor-1254	ND /R	ND	ND	0.00056 (w/DL = 0.1 to 0.9)
PCB/Aroclor-1260	ND /R	ND	ND	0.00056 (w/DL = 0.1 to 0.9)

**Notes:**

Shaded cells indicate discharge exceedances

pH data is expressed in S.U.

TSS and BOD<sub>5</sub> data is expressed in mg/L

Metals, VOC, SVOC and PCB data is expressed in mg/L

ND = Not detected

NE = No effluent limit established.

NA = Sample not analyzed for this compound

**Suffix Definitions:**

/ = Data qualifier added by laboratory

/\_ = Data qualifier added by data validator

B = Compound is also detected in the blank

E = Compound exceeds the upper level of calibration range of instrument

J = Result is detected below the reporting limit and is an estimated concentration

Q = Sample was analyzed out of the recommended holding time

R = Quality control indicates the data is not usable

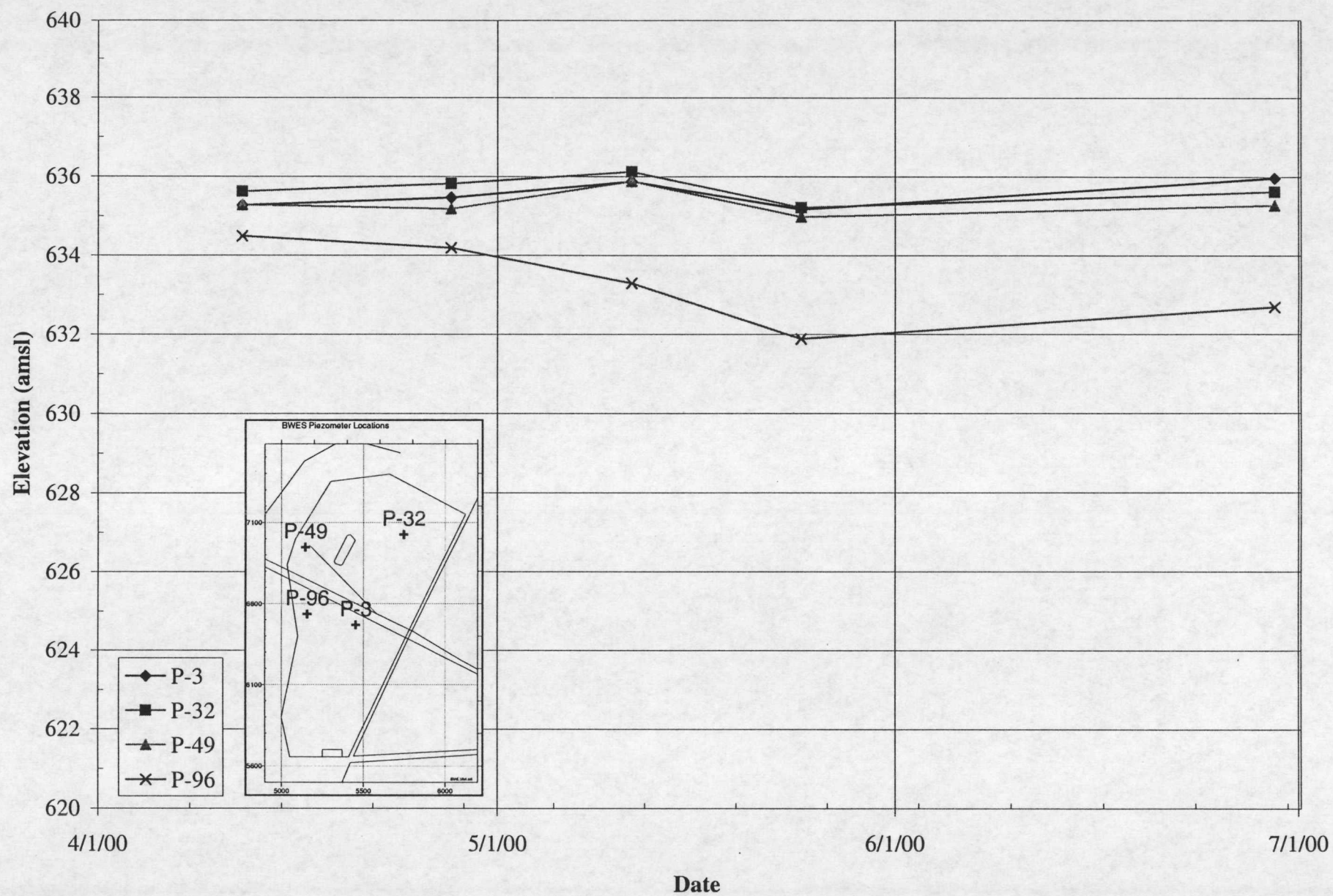
JB = Analyte is detected in the compliance sample below the reporting limit and is an estimated concentration and the compound is also detected in the method blank resulting in a potential high bias

UB = Analyte is not detected at or above the indicated concentration due to blank contamination

UJ= Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value



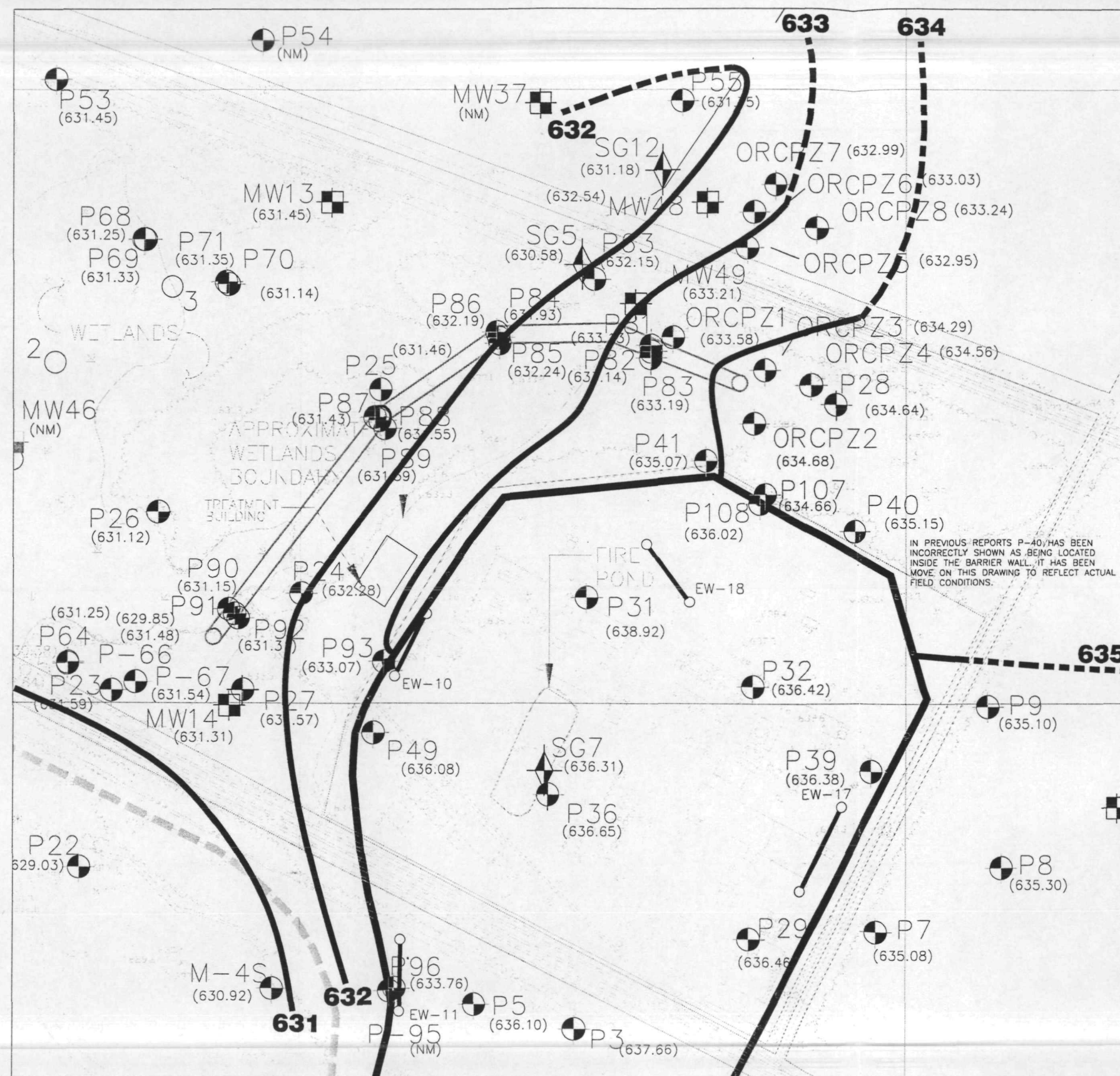




Plot Date:

FILE: J:\1252\057\271801\00\_24\PGCS\_2nd\_quarter\_june2000.dwg

JOB No. MW Job No.

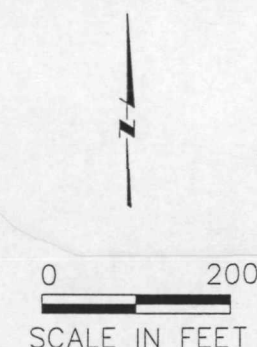


# LEGEND

- P106 PIEZOMETER LOCATION AND DESIGNATION
- ORCPZ7 ORC PIEZOMETER LOCATION AND DESIGNATION
- MW48 MONITORING WELL LOCATION AND DESIGNATION
- SG12 STAFF GAUGE LOCATION AND DESIGNATION
- (DRY) WELL/STAFF GAUGE WAS DRY DURING MEASURING
- (NM) NOT MEASURED
- (631.56) GROUNDWATER ELEVATION
- BARRIER WALL
- GRIFFITH LANDFILL BOUNDARY
- PERIMETER GROUND WATER CONTAINMENT SYSTEM EXTRACTION TRENCH
- EW-11 BWES EXTRACTION TRENCH LOCATION AND DESIGNATION
- 635** GROUNDWATER ELEVATION CONTOUR BASED ON GROUNDWATER ELEVATION DATA

## NOTE

1. GROUNDWATER ELEVATIONS WERE MEASURED AT THE SITE ON JUNE 26, 2000



SCALE

1"=200'



**MONTGOMERY WATSON**  
Chicago, Illinois

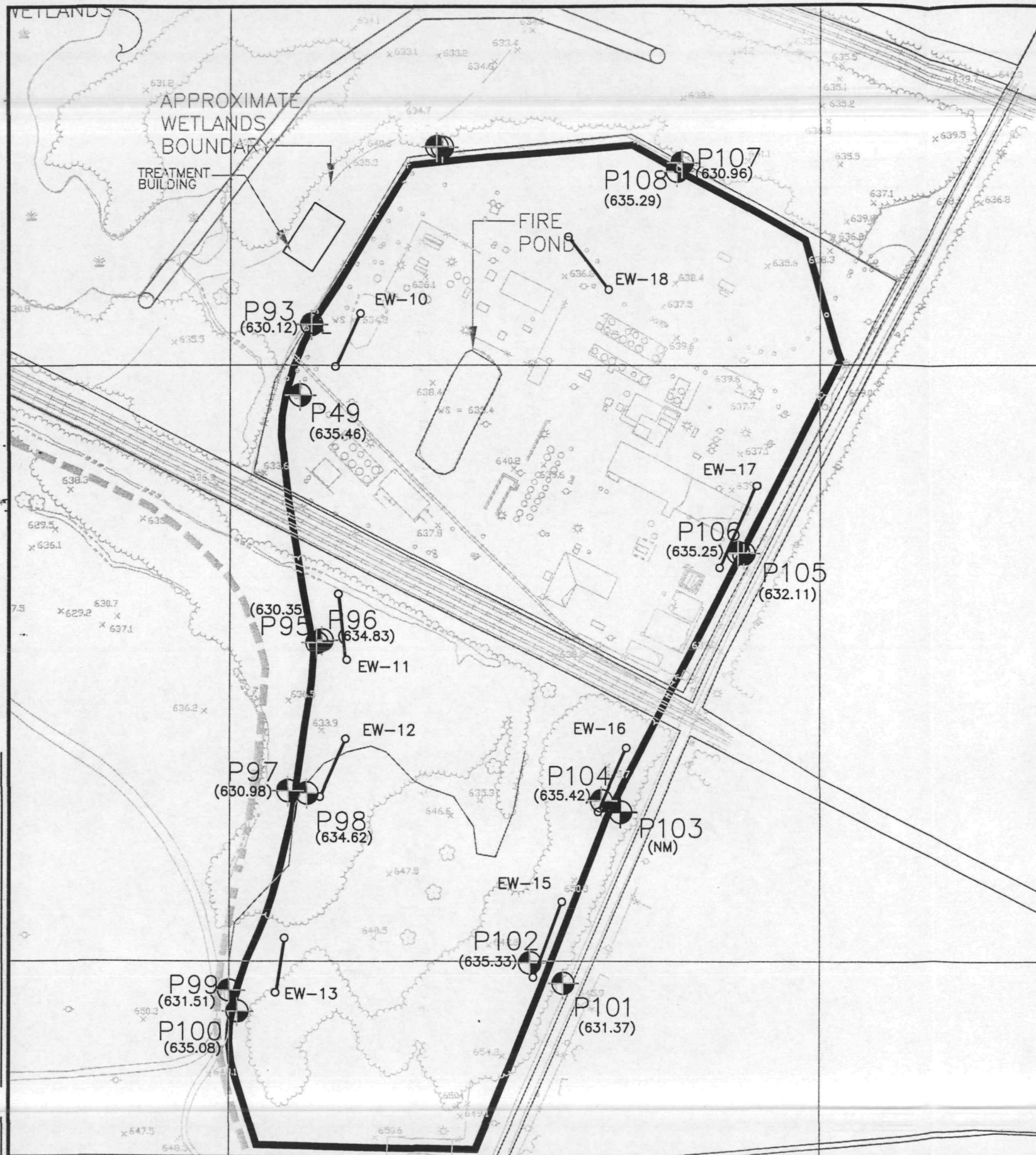
AMERICAN CHEMICAL SERVICES, INC.  
GRIFFITH, INDIANA

WATER TABLE ELEVATIONS  
NEAR THE PGCS  
JUNE 2000

FIGURE

4.2



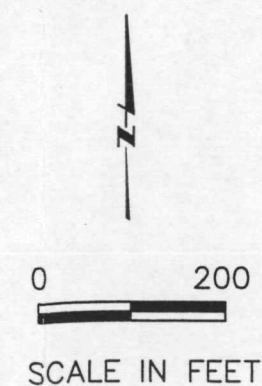


# LEGEND

- P106 PIEZOMETER LOCATION AND DESIGNATION
- (638.12) GROUNDWATER ELEVATION
- BARRIER WALL
- GRIFFITH LANDFILL BOUNDARY
- PERIMETER GROUND WATER CONTAINMENT SYSTEM EXTRACTION TRENCH
- EW-11 BWES EXTRACTION TRENCH LOCATION AND DESIGNATION

## NOTES

- GROUNDWATER ELEVATIONS WERE MEASURED THE SITE ON MARCH 27, 2000



4/1252/057/271801/99\_2.dwg/BWES\_1st\_quarter\_march2000.dwg

JOB No.

SCALE  
1"=200'

**MONTGOMERY WATSON**  
Chicago, Illinois

AMERICAN CHEMICAL SERVICES, INC.  
GRIFFITH, INDIANA

WATER TABLE ELEVATIONS  
ACROSS THE BARRIER WALL  
JUNE 2000

FIGURE  
4.3

**APPENDIX A**

**EFFLUENT ANALYTICAL DATA**

**April 5, 2000 Compliance Sample  
Laboratory Results**

PH IN WATER ANALYSIS

SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (Standard pH units)	REPORTING LIMIT (Standard pH units)
1.	EFFLUENT	Y1024-1	7.5	N/A

Reviewed by/ID#: 1COOKE 1 2356 Date: 4/11/00

TOTAL SUSPENDED SOLIDS ANALYSIS

SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (mg/L)	REPORTING LIMIT (mg/L)
1.	EFFLUENT	Y1024-1	BRL	4

BRL = BELOW REPORTING LIMIT

Reviewed by/ID#: W Cooke 12356 Date: 4/11/00



TRITEST, INC.  
3909 Beryl Road  
Raleigh, NC 27607  
Telephone: (919) 834-4984  
Fax: (919) 834-6497  
NC/WW Cert.#: 067

L a b o r a t o r y   R e p o r t

--- Prepared for ---

Page 1 of 1

Mr. Charles Cabaniss  
Test America, Inc.  
2700 Gateway Centre  
Suite 625  
Morrisville, NC 27560

Report Date: 4/13/00  
Date Received: 4/06/00

Work Order #: 0004-00403

Cust. Code: HY9699  
Cust. P.O.#:

Project ID: 01

Project Info: ACS-89 / T1165-1 NEED QA PKG. & BENCH SHEETS

No. Sample ID	Date Sampled	Time Sampled	Matrix	Condition
001 EFFLUENT / ACS-89	4/05/2000	14:30	WW	4±2°C

Test Performed	Method	Results Tech	Analyzed	Qual
Biochemical Oxygen Demand	EPA 405.1	20 mg/L TP	4/07/00	

Report certified by:



for Tritest, Inc.

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM Contract:

Lab Code: LIBRTY      Case No.:      SAS No.:      SDG No.: Y1024

Matrix (soil/water): WATER Lab Sample ID: Y1024-1

Level (low/med): LOW Date Received: 04/06/00

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

[illegible]

Color Before: COLORLESS      Clarity Before: CLEAR      Texture:

Color After: COLORLESS      Clarity After: CLEAR      Artifacts:

Comments :

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y1024

Matrix: (soil/water) WATER

Lab Sample ID: Y1024-1

Sample wt/vol: 25.00 (g/ml) ML

Lab File ID: Y1024-1B51

Level: (low/med) LOW

Date Received: 04/06/00

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 04/11/00

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

74-87-3-----	Chloromethane	0.5	U	UJ
75-01-4-----	Vinyl Chloride	0.5	U	
74-83-9-----	Bromomethane	0.5	U	
75-00-3-----	Chloroethane	0.5	U	
75-35-4-----	1,1-Dichloroethene	0.5	U	J
75-15-0-----	Carbon disulfide	0.5	U	
67-64-1-----	Acetone	270	EB	
75-09-2-----	Methylene Chloride	2		
156-60-5-----	trans-1,2-Dichloroethene	0.5	U	J
75-34-3-----	1,1-Dichloroethane	0.5	U	
156-59-2-----	cis-1,2-Dichloroethene	0.5	U	
78-93-3-----	2-butanone	2	J	
67-66-3-----	Chloroform	0.5	U	J
71-55-6-----	1,1,1-Trichloroethane	0.5	U	
56-23-5-----	Carbon Tetrachloride	0.5	U	
71-43-2-----	Benzene	0.5	U	
107-06-2-----	1,2-Dichloroethane	0.5	U	J
79-01-6-----	Trichloroethene	0.5	U	
78-87-5-----	1,2-Dichloropropane	0.5	U	
75-27-4-----	Bromodichloromethane	0.5	U	
10061-01-5-----	cis-1,3-Dichloropropene	0.5	U	J
108-10-1-----	4-Methyl-2-pentanone	2	U	
108-88-3-----	Toluene	0.5	U	
10061-02-6-----	trans-1,3-Dichloropropene	0.5	U	
79-00-5-----	1,1,2-Trichloroethane	0.5	U	J
127-18-4-----	Tetrachloroethene	0.5	U	
591-78-6-----	2-hexanone	1	J	
124-48-1-----	Dibromochloromethane	0.5	U	
108-90-7-----	Chlorobenzene	0.5	U	J
100-41-4-----	Ethylbenzene	0.5	U	
100-42-5-----	Styrene	0.5	U	
75-25-2-----	Bromoform	0.5	U	
79-34-5-----	1,1,2,2-Tetrachloroethane	0.5	U	

FORM I VOA

9/6/00 TMK

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y1024

Matrix: (soil/water) WATER

Lab Sample ID: Y1024-1

Sample wt/vol: 25.00 (g/ml) ML

Lab File ID: Y1024-1B51

Level: (low/med) LOW

Date Received: 04/06/00

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 04/11/00

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

106-46-7-----1,4-Dichlorobenzene	0.5	U
540-59-0-----1,2-Dichloroethene (total)	0.5	U
1330-20-7-----Xylene (total)	0.5	U

FORM I VOA

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y1024

Matrix: (soil/water) WATER

Lab Sample ID: Y1024-1

Sample wt/vol: 500.0 (g/mL) ML

Lab File ID: GY10241RA68

Level: (low/med) LOW

Date Received: 04/06/00

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 04/07/00

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/09/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

111-44-4-----Bis(2-chloroethyl) ether_____	10	U
106-44-5-----4-Methylphenol_____	34	U
78-59-1-----Isophorone_____	50	U
117-81-7-----bis(2-ethylhexyl) Phthalate_____	6	U

# Data Analysis Technologies, Inc.

7715 Corporate Blvd.

Plain City Oh. 43064

## Sample Analysis Certificate

Client: CompuChem

Date Sampled: 04/05/00

Client Sample ID: Effluent

Date Received: 04/06/00

Sample Volume: 1000 mls

Lab Sample ID: 0400018-1

Extract Volume: 1 ml

Matrix: Aqueous

Target Analyte	Result	Units	DL	Prep Date	Analysis Date
Pentachlorophenol	ND	ug/L	0.1	04/11//00	04/17/00

J

7/6/00 TMK

Surrogate:	Amount Spiked	Amount Found	Units	%Rec.
2,4,6-Tribromophenol	10.0	9.0	ug	90%

000005

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y1024

Matrix: (soil/water) WATER

Lab Sample ID: Y1024-1

Sample wt/vol: 1100 (g/mL) ML

Lab File ID: \_\_\_\_\_

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 04/06/00

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 04/06/00

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 04/07/00

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	----------------------------------------------	---

12674-11-2-----Aroclor-1016	0.45	U
11104-28-2-----Aroclor-1221	0.91	U
11141-16-5-----Aroclor-1232	0.45	U
53469-21-9-----Aroclor-1242	0.45	U
12672-29-6-----Aroclor-1248	0.45	U
11097-69-1-----Aroclor-1254	0.45	U
11096-82-5-----Aroclor-1260	0.45	U

R  
R  
R  
R  
R  
R  
R

9/6/00 TMK

**May 16, 2000 Compliance Resample  
Laboratory Results**



PH IN WATER ANALYSIS

SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (Standard pH units)	REPORTING LIMIT (Standard pH units)
1.	EFFLUENT	A1024-1	7.5	N/A

Reviewed by/ID#: Woke 12356 Date: 5/24/00

TOTAL SUSPENDED SOLIDS ANALYSIS

SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (mg/L)	REPORTING LIMIT (mg/L)
1.	EFFLUENT	A1024-1	BRL	4

BRL = BELOW REPORTING LIMIT

Reviewed by/ID#: Wooke / 2356 Date: 5/24/00

TRITEST, INC.  
3909 Beryl Road  
Raleigh, NC 27607  
Telephone: (919) 834-4984  
Fax: (919) 834-6497  
NC/WW Cert.#: 067

L a b o r a t o r y   R e p o r t

--- Prepared for ---

Page 1 of 1

Mr. Charles Cabaniss  
Test America, Inc.  
2700 Gateway Centre  
Suite 625  
Morrisville, NC 27560

Report Date: 5/30/00  
Date Received: 5/17/00

Work Order #: 0005-00713

Cust. Code: HY9699  
Cust. P.O.#:

Project ID: 01  
Project Info: ACS-84 / 00-0328

No. Sample ID	Date Sampled	Time Sampled	Matrix	Condition
001 ACS-84 EFFLUENT (00-0328)	5/16/2000	14:00	WW	4±2°C

Test Performed	Method	Results Tech	Analyzed	Qual
Biochemical Oxygen Demand	EPA 405.1	<2.0 mg/L TP	5/18/00	

Report certified by:



for Tritest, Inc.



FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A1024

Matrix: (soil/water) WATER

Lab Sample ID: A1024-1

Sample wt/vol: 25.00 (g/ml) ML

Lab File ID: A1024-1A56

Level: (low/med) LOW

Date Received: 05/17/00

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 05/19/00

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

74-87-3-----	Chloromethane	0.5	U
75-01-4-----	Vinyl Chloride	0.5	U
74-83-9-----	Bromomethane	0.5	U
75-00-3-----	Chloroethane	0.5	U
75-35-4-----	1,1-Dichloroethene	0.5	U
75-15-0-----	Carbon disulfide	0.5	U
67-64-1-----	Acetone	180	EB
75-09-2-----	Methylene Chloride	2	B
156-60-5-----	trans-1,2-Dichloroethene	0.5	U
75-34-3-----	1,1-Dichloroethane	0.5	U
156-59-2-----	cis-1,2-Dichloroethene	0.5	U
78-93-3-----	2-butanone	2	U
67-66-3-----	Chloroform	0.5	U
71-55-6-----	1,1,1-Trichloroethane	0.5	U
56-23-5-----	Carbon Tetrachloride	0.5	U
71-43-2-----	Benzene	0.5	U
107-06-2-----	1,2-Dichloroethane	0.5	U
79-01-6-----	Trichloroethene	0.5	U
78-87-5-----	1,2-Dichloropropane	0.5	U
75-27-4-----	Bromodichloromethane	0.5	U
10061-01-5-----	cis-1,3-Dichloropropene	0.5	U
108-10-1-----	4-Methyl-2-pentanone	2	U
108-88-3-----	Toluene	0.5	U
10061-02-6-----	trans-1,3-Dichloropropene	0.5	U
79-00-5-----	1,1,2-Trichloroethane	0.5	U
127-18-4-----	Tetrachloroethene	0.5	U
591-78-6-----	2-hexanone	2	U
124-48-1-----	Dibromochloromethane	0.5	U
108-90-7-----	Chlorobenzene	0.5	U
100-41-4-----	Ethylbenzene	0.5	U
108-38-3-----	m,p-Xylene	1	U
95-47-6-----	o-Xylene	0.5	U
100-42-5-----	Styrene	0.5	U

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A1024

Matrix: (soil/water) WATER

Lab Sample ID: A1024-1

Sample wt/vol: 25.00 (g/ml) ML

Lab File ID: A1024-1A56

Level: (low/med) LOW

Date Received: 05/17/00

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 05/19/00

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	----------------------------------------------	---

75-25-2-----	Bromoform	0.5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.5	U
106-46-7-----	1,4-Dichlorobenzene	0.5	U
540-59-0-----	1,2-Dichloroethene (total)	0.5	U
1330-20-7-----	Xylene (total)	0.5	U

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENTDL

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A1024

Matrix: (soil/water) WATER

Lab Sample ID: A1024-1

Sample wt/vol: 25.00 (g/ml) ML

Lab File ID: A1024-1DA56

Level: (low/med) LOW

Date Received: 05/17/00

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 05/19/00

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 2.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

74-87-3-----	Chloromethane	1	U
75-01-4-----	Vinyl Chloride	1	U
74-83-9-----	Bromomethane	1	U
75-00-3-----	Chloroethane	1	U
75-35-4-----	1,1-Dichloroethene	1	U
75-15-0-----	Carbon disulfide	1	U
67-64-1-----	Acetone	190	DB
75-09-2-----	Methylene Chloride	2	DB
156-60-5-----	trans-1,2-Dichloroethene	1	U
75-34-3-----	1,1-Dichloroethane	1	U
156-59-2-----	cis-1,2-Dichloroethene	1	U
78-93-3-----	2-butanone	5	U
67-66-3-----	Chloroform	1	U
71-55-6-----	1,1,1-Trichloroethane	1	U
56-23-5-----	Carbon Tetrachloride	1	U
71-43-2-----	Benzene	1	U
107-06-2-----	1,2-Dichloroethane	1	U
79-01-6-----	Trichloroethene	1	U
78-87-5-----	1,2-Dichloropropane	1	U
75-27-4-----	Bromodichloromethane	1	U
10061-01-5-----	cis-1,3-Dichloropropene	1	U
108-10-1-----	4-Methyl-2-pentanone	5	U
108-88-3-----	Toluene	1	U
10061-02-6-----	trans-1,3-Dichloropropene	1	U
79-00-5-----	1,1,2-Trichloroethane	1	U
127-18-4-----	Tetrachloroethene	1	U
591-78-6-----	2-hexanone	5	U
124-48-1-----	Dibromochloromethane	1	U
108-90-7-----	Chlorobenzene	1	U
100-41-4-----	Ethylbenzene	1	U
108-38-3-----	m,p-Xylene	2	U
95-47-6-----	o-Xylene	1	U
100-42-5-----	Styrene	1	U

FORM I VOA

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENTDL

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A1024

Matrix: (soil/water) WATER

Lab Sample ID: A1024-1

Sample wt/vol: 25.00 (g/ml) ML

Lab File ID: A1024-1DA56

Level: (low/med) LOW

Date Received: 05/17/00

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 05/19/00

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 2.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	----------------------------------------------	---

75-25-2-----	Bromoform	1	U
79-34-5-----	1,1,2,2-Tetrachloroethane	1	U
106-46-7-----	1,4-Dichlorobenzene	1	U
540-59-0-----	1,2-Dichloroethene (total)	1	U
1330-20-7-----	Xylene (total)	1	U

FORM I VOA



FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A1024

Matrix: (soil/water) WATER

Lab Sample ID: A1024-1

Sample wt/vol: 1075 (g/mL) ML

Lab File ID: GA1024-1A64

Level: (low/med) LOW

Date Received: 05/17/00

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 05/17/00

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 05/18/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
---------	----------	----------------------------------------------	---

111-44-4-----	Bis(2-chloroethyl) ether	8.9	U
106-44-5-----	4-Methylphenol	32	U
78-59-1-----	Isophorone	46	U
117-81-7-----	bis(2-ethylhexyl) Phthalate	6	U

R

8/21/00 Tmk

# Data Analysis Technologies, Inc.

7715 Corporate Blvd.

Plain City Oh. 43064

## Sample Analysis Certificate

Client: CompuChem

Date Sampled: 5/16/00

Client Sample ID: Effluent

Date Received: 5/19/00

Sample Volume: 1000 mls

Lab Sample ID: 0500046-1

Extract Volume: 1 ml

Matrix: Aqueous

Target Analyte	Result	Units	DL	Prep Date	Analysis Date
Pentachlorophenol	ND	ug/L	0.1	5/22/00	6/3/00

J

8/21/00 Tmk

Surrogate:	Amount Spiked	Amount Found	Units	%Rec.
2,4,6-Tribromophenol	10.0	8.05	ug	81%

000004

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A1024

Matrix: (soil/water) WATER

Lab Sample ID: A1024-1

Sample wt/vol: 1075 (g/mL) ML

Lab File ID: \_\_\_\_\_

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 05/17/00

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 05/18/00

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 05/25/00

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

12674-11-2-----Aroclor-1016	0.46	U
11104-28-2-----Aroclor-1221	0.93	U
11141-16-5-----Aroclor-1232	0.46	U
53469-21-9-----Aroclor-1242	0.46	U
12672-29-6-----Aroclor-1248	0.46	U
11097-69-1-----Aroclor-1254	0.46	U
11096-82-5-----Aroclor-1260	0.46	U

**June 1, 2000 Compliance Sample  
Laboratory Results**

PH IN WATER ANALYSIS

SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (Standard pH units)	REPORTING LIMIT (Standard pH units)
1.	EFFLUENT	D1024-1	6.9	N/A

BRL = BELOW REPORTING LIMIT

Reviewed by/ID#: ICOOKE 12356 Date: 6/8/00

TOTAL SUSPENDED SOLIDS ANALYSIS

SUMMARY REPORT

ITEM NO.	SAMPLE IDENTIFIER	COMPUCHEM NUMBER	RESULT (mg/L)	REPORTING LIMIT (mg/L)
1.	EFFLUENT	D1024-1	20	4

BRL = BELOW REPORTING LIMIT

Reviewed by/ID#: WONKE / 2356 Date: 6/8/00

TRITEST, INC.  
3909 Beryl Road  
Raleigh, NC 27607  
Telephone: (919) 834-4984  
Fax: (919) 834-6497  
NC/WW Cert.#: 067

L a b o r a t o r y   R e p o r t

--- Prepared for ---

Page 1 of 1

Mr. Charles Cabaniss  
Test America, Inc.  
2700 Gateway Centre  
Suite 625  
Morrisville, NC 27560

Report Date: 6/13/00  
Date Received: 6/02/00

Work Order #: 0006-00090

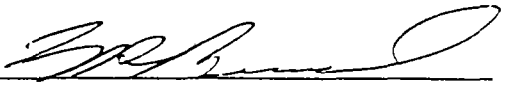
Cust. Code: HY9699  
Cust. P.O.#:

Project ID: 01  
Project Info: ACS-89 / 00-0370

No. Sample ID	Date Sampled	Time Sampled	Matrix	Condition
001 ACS-89 EFFLUENT/00-0370	6/01/2000	14:00	WW	Ambient

Test Performed	Method	Results Tech	Analyzed	Qual
Biochemical Oxygen Demand	EPA 405.1	9.6 mg/L TP	6/02/00	

Report certified by:

  
for Tritest, Inc.

1

INORGANIC ANALYSES DATA SHEET

EFFLUENT



FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: D1024

Matrix: (soil/water) WATER

Lab Sample ID: D1024-1

Sample wt/vol: 25.00 (g/ml) ML

Lab File ID: D1024-1B54

Level: (low/med) LOW

Date Received: 06/02/00

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/09/00

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO. COMPOUND CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L Q

74-87-3	Chloromethane	0.5	U	UJ
75-01-4	Vinyl Chloride	0.5	U	
74-83-9	Bromomethane	0.5	U	
75-00-3	Chloroethane	0.5	U	UJ
75-35-4	1,1-Dichloroethene	0.5	U	
75-15-0	Carbon disulfide	0.5	U	
67-64-1	Acetone	63		J
75-09-2	Methylene Chloride	2		
156-60-5	trans-1,2-Dichloroethene	0.5	U	
75-34-3	1,1-Dichloroethane	0.5	U	
156-59-2	cis-1,2-Dichloroethene	0.5	U	UJ
78-93-3	2-butanone	5		J
67-66-3	Chloroform	0.5	U	
71-55-6	1,1,1-Trichloroethane	0.5	U	
56-23-5	Carbon Tetrachloride	0.5	U	
71-43-2	Benzene	0.5	U	
107-06-2	1,2-Dichloroethane	0.5	U	
79-01-6	Trichloroethene	0.5	U	
78-87-5	1,2-Dichloropropane	0.5	U	
75-27-4	Bromodichloromethane	0.5	U	
10061-01-5	cis-1,3-Dichloropropene	0.5	U	
108-10-1	4-Methyl-2-pentanone	2	U	UJ
108-88-3	Toluene	0.2	J	
10061-02-6	trans-1,3-Dichloropropene	0.5	U	
79-00-5	1,1,2-Trichloroethane	0.5	U	
127-18-4	Tetrachloroethene	0.5	U	
591-78-6	2-hexanone	2	U	UJ/R
124-48-1	Dibromochloromethane	0.5	U	
108-90-7	Chlorobenzene	0.5	U	
100-41-4	Ethylbenzene	0.5	U	
108-38-3	m,p-Xylene	1	U	
95-47-6	o-Xylene	0.5	U	
100-42-5	Styrene	0.5	U	UJ

FORM I VOA

8/21/00 TMK

FORM 1  
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: D1024

Matrix: (soil/water) WATER

Lab Sample ID: D1024-1

Sample wt/vol: 25.00 (g/ml) ML

Lab File ID: D1024-1B54

Level: (low/med) LOW

Date Received: 06/02/00

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/09/00

GC Column: EQUITY624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: \_\_\_\_\_ (uL)

Soil Aliquot Volume: \_\_\_\_\_ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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75-25-2-----	Bromoform	0.5	U
79-34-5-----	1,1,2,2-Tetrachloroethane	0.5	U
106-46-7-----	1,4-Dichlorobenzene	0.5	U
540-59-0-----	1,2-Dichloroethene (total)	0.5	U
1330-20-7-----	Xylene (total)	0.5	U

uJ

8/21/00  
Tmk

FORM I VOA

FORM 1  
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: D1024

Matrix: (soil/water) WATER

Lab Sample ID: D1024-1

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: D1024-1A68

Level: (low/med) LOW

Date Received: 06/02/00

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Extracted: 06/05/00

Concentrated Extract Volume: 1000 (uL)

Date Analyzed: 06/05/00

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

CAS NO.

COMPOUND

CONCENTRATION UNITS:  
(ug/L or ug/Kg) UG/L

Q

111-44-4-----	Bis(2-chloroethyl) ether	10	U
106-44-5-----	4-Methylphenol	34	U
78-59-1-----	Isophorone	50	U
117-81-7-----	bis(2-ethylhexyl) Phthalate	6	U

R

7/21/00 TMK

FORM I SV

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Effluent

Lab Name: DAT laboratory Contract: ACS-89  
Lab Code: \_\_\_\_\_ Case No.: ACS-89 SAS No.: \_\_\_\_\_ SDG No.: 0600012  
Matrix: (soil/water) WATER Lab Sample ID: 0600012-01  
Sample wt/vol: 1000 (g/ml) ML Lab File ID: 06001201.D  
Level: (low/med) LOW Date Received: 6/6/00  
% Moisture: \_\_\_\_\_ decanted: (Y/N) N Date Extracted: 6/7/00  
Concentrated Extract Volume: 1000 (uL) Date Analyzed: 6/27/00  
Injection Volume: 1.0 (uL) Dilution Factor: 1.0  
GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

## CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

87-86-5	Pentachlorophenol	0.1	U
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FORM 1 SV-1

3/90

1D  
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM

Contract:

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: D1024

Matrix: (soil/water) WATER

Lab Sample ID: D1024-1

Sample wt/vol: 1100 (g/mL) ML

Lab File ID: \_\_\_\_\_

% Moisture: \_\_\_\_\_ decanted: (Y/N) \_\_\_\_\_

Date Received: 06/02/00

Extraction: (SepF/Cont/Sonc) SEPF

Date Extracted: 06/03/00

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 06/06/00

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: \_\_\_\_\_

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
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12674-11-2-----Aroclor-1016	0.45	U
11104-28-2-----Aroclor-1221	0.91	U
11141-16-5-----Aroclor-1232	0.45	U
53469-21-9-----Aroclor-1242	0.45	U
12672-29-6-----Aroclor-1248	0.45	U
11097-69-1-----Aroclor-1254	0.45	U
11096-82-5-----Aroclor-1260	0.45	U